



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Mizunori EZAKI, et al.

SERIAL NO: 10/720,515

GAU:

FILED: November 25, 2003

EXAMINER:

FOR: A VERTICAL-CAVITY SURFACE EMITTING LASER DIODE AND ITS MANUFACTURING METHOD

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

Applicant(s) wish to disclose the following information.

REFERENCES

- The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- Attached is a list of applicant's pending application(s) or issued patent(s) which may be related to the present application. A copy of the patent(s), together with a copy of the claims and drawings of the pending application(s) is attached along with PTO 1449.
- A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

CERTIFICATION

- Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

- Please charge any additional fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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(OSMMN 05/03)

Docket No. 245934US2TTCRD



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Respectfully submitted,

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FEB 25 2004

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GROUP:

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EXAMINER:

FOR: A VERTICAL-CAVITY SURFACE EMITTING LASER DIODE AND ITS
MANUFACTURING METHOD**STATEMENT OF RELEVANCY****Reference AA (US 5,493,577) on Form PTO-1449:**

This discloses to semiconductor light-emitting devices having a resonant cavity structure in a direction normal to the plane of an active region, and method for fabrication thereof. The device is provided with at least one control layer or control region which includes an annular oxidized portion with asymmetric shape to channel an injection current to the active region, and to provide a lateral refractive index profiles and a preferred direction of polarization for the light generated within the devices.

Reference AO (JP 11-112084) on Form PTO-1449:

This relates to a method for fabricating selectively oxidized vertical cavity surface lasers (VCSEL) devices. The shape and size of the oxide-aperture for current confinement can be controlled by forming the lateral oxidation stop layer pattern.

Reference AP (JP 9-266350) on Form PTO-1449:

This relates to a method for fabricating selectively oxidized vertical cavity surface lasers (VCSEL) devices. The lateral oxidation extent can be controlled by forming the film pattern with a suitable stress on the surface of mesa-structure in the devices.

Form PTO 1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO. 245934US2TTCRD	SERIAL NO. 10/720,515		
LIST OF REFERENCES CITED BY APPLICANT				APPLICANT Mizunori EZAKI, et al.			
				FILING DATE November 25, 2003	GROUP		
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT & TRADE DATE		NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	5,493,577	02/20/1996	K.D. CHOQUETTE et al.			
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION		
	AO	11-112084	04/23/1999	JAPAN	YES	NO	X
	AP	9-266350	10/07/1997	JAPAN			X
	AQ						
	AR						
	AS						
	AT						
	AU						
	AV						
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	AW						
	AX						
	AY						
	AZ				<input type="checkbox"/> Additional References sheet(s) attached		
Examiner				Date Considered			
*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							



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		LIST OF REFERENCES CITED BY APPLICANT		APPLICANT Mizunori EZAKI, et al.			
		FILING DATE November 25, 2003	GROUP				
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
AA		6,678,307	01-2004	EZAKI ET AL.			
AB							
AC							
AD							
AE							
AF							
AG							
AH							
AI							
AJ							
AK							
AL							
AM							
AN							
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION		
					YES	NO	
AO							
AP							
AQ							
AR							
AS							
AT							
AU							
AV							
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	AW						
	AX						
	AY						
	AZ					<input type="checkbox"/> Additional References sheet(s) attached	
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LIST OF RELATED CASES

<u>Docket Number</u>	<u>Serial or Patent Number</u>	<u>Filing or Issue Date</u>	<u>Inventor/Applicant</u>
228850US2 SRD	6,678,307	01/13/04	EZAKI et al.
245934US2 TTCRD*	10/720,515	11/25/03	EZAKI et al.

*Present Application; listed for information
EHK/gyy
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